



**US Army Corps
of Engineers®**

Savannah District

**New Savannah Bluff Lock and Dam Project
Savannah River
Georgia and South Carolina
Section 216
Disposition Study**



**Final Report
8 September 2000**

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	1
MAIN REPORT	
SECTION 1	
INTRODUCTION	
1.1. STUDY AUTHORITY.....	3
1.2. STUDY OBJECTIVE	3
1.3. STUDY AREA.....	3
1.4. PROJECT LOCATION	3
1.5. PROJECT DESCRIPTION	4
1.6. PROJECT AUTHORITY.....	4
SECTION 2	
BACKGROUND	
2.1. PROJECT OWNERSHIP	11
2.2. AUTHORIZED PROJECT PURPOSE.....	11
2.3. AUTHORIZED PROJECT USE	11
2.4. INCIDENTAL PROJECT USES	11
2.5. PROJECT OPERATION	12
SECTION 3	
PROBLEM STATEMENT	
PROBLEM STATEMENT	13
SECTION 4	
FORMULATION OF ALTERNATIVES	
FORMULATION OF ALTERNATIVES	15

TABLE OF CONTENTS
(cont'd)

SECTION 5
EVALUATION OF ALTERNATIVES

5.1.	STATUS QUO ALTERNATIVE	
5.1.1.	Description.....	16
5.1.2.	Cost	16
5.1.2.1.	Recommended Repair and Rehabilitation.....	16
5.1.2.2.	Annual Operation and Maintenance.....	17
5.1.2.3.	Total Average Annual Cost.....	17
5.1.3.	Benefits	18
5.1.3.1.	Water Supply.....	18
5.1.3.2.	Water-Dependent, General Recreation	21
5.1.3.3.	Total Average Annual Benefits	22
5.1.4.	Net Benefits and Benefit-to-Cost Ratio	22
5.1.5.	Regional Economic Impacts	22
5.1.6.	Summary.....	22
5.2.	TRANSFER OWNERSHIP ALTERNATIVE	
5.2.1.	Description.....	23
5.2.2.	Potential Sponsor.....	23
5.2.3.	Cost	23
5.2.4.	Benefits.....	24
5.2.5.	Total Average Annual Benefits	25
5.2.6.	Net Benefits and Benefit-to-Cost Ratio	25
5.2.7.	Summary	25
5.3.	REAUTHORIZATION ALTERNATIVE	
5.3.1.	Description.....	26
5.3.2.	Cost	26
5.3.3.	Benefits.....	28
5.3.4.	Total Average Annual Benefits	28
5.3.5.	Net Benefits and Benefit-to-Cost Ratio	28
5.3.6.	Fish Passage Improvement.....	29
5.3.7.	Summary	29
5.4.	DEAUTHORIZATION ALTERNATIVE	
5.4.1.	Description.....	31
5.4.2.	Cost	31
5.4.3.	Benefits.....	32
5.4.4.	Net Benefits and Benefit to Cost Ratio	32
5.4.5.	Ecosystem Non-Monetary Benefits	32
5.4.6.	Wetlands	33

TABLE OF CONTENTS (cont'd)

SECTION 6 **SUMMARY OF ALTERNATIVES**

6.1.	SUMMARY OF ECONOMICS	34
6.2.	SUMMARY OF COORDINATION, PUBLIC VIEWS, AND COMMENTS	34

SECTION 7 **CONCLUSIONS AND RECOMMENDATIONS**

CONCLUSIONS AND RECOMMENDATIONS	35
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SECTION 8 **RECOMMENDED ACTION**

RECOMMENDED ACTION	36
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LIST OF TABLES

Table	Title	Page
1	MI&A Water Supply Users	18
2	Summary of Water Supply Benefits	20
3	Total First Cost – Immediate Repairs and Rehabilitation: Transfer Ownership Alternative.....	24
4	Cost-Share – EAA O&MRR&R Cost: Transfer Ownership Alternative	24
5	Total First Cost – Immediate RR&R and Fishway Construction: Reauthorization Alternative.....	27
6	Total Cost-Share by Project Purpose: Reauthorization	27
7	EAA Cost-Share – RR&R, Fishway Construction and O&M: Reauthorization Alternative.....	28
8	Cost Estimate – Complete Removal of the Project: Deauthorization Alternative	30
9	Annual Benefits to the Nation: Comparison of Alternatives	34
10	Annual Net Benefits to the Nation and Benefit Cost Analysis	34

TABLE OF CONTENTS (cont'd)

LIST OF FIGURES

Figure	Title	Page
1	Study Area Map.....	5
2	Project Location Map	6
3	Project Map	7
4	Cross Section of Project Lock	8
5	Cross Section of Project Dam.....	9
6	Downstream View of Project	10
7	Upstream View of Project	10
8	Fish Bypass Channel	30

LIST OF APPENDICES

Appendix	Title
A	LEASE AGREEMENT BETWEEN AUGUSTA-RICHMOND COUNTY AND USACE, SAVANNAH DISTRICT
	A-1: 1987 Original Agreement
	A-2: Memorandum of Agreement
	A-3: Supplemental Agreement Number 2
B	CORRESPONDENCE
	B-1: Lock Wall Inspection
	B-2: Locally Preferred Plan
	B-3: Georgia DNR Sponsorship Letter
	B-4: Savannah River Resource Enhancement, Inc. Letter
C	ENGINEERING CONSIDERATIONS
	C-1: O&MRR&R Cost and Narrative Description
	C-2: Hydraulics and Hydrology Analysis
D	COST ESTIMATES
	D-1: Status Quo Alternative
	D-2: Transfer Ownership Alternative
E	RECREATION BENEFITS
	E-1 Implementation of Unit Day Value Methodology
	E-2 List of Substitute Recreation Sites
F	ENVIRONMENTAL ASSESSMENT
	F-A: Findings of No Significant Impact
	F-B: Biological Assessment of Treated and Endangered Species (BATES)
	F-C: Coordination/Comments
	F-D: U.S. Fish and Wildlife Service and National Marine Fisheries Service Coordination Act Reports
	F-E: Wetland Evaluation Report

Executive Summary

The purpose of this study was to review the current uses of the New Savannah Bluff Lock and Dam (NSBL&D) Project, Savannah River, Georgia and South Carolina, and recommend its future disposition.

The NSBL&D project was authorized by the 1930 and 1935 Rivers and Harbors Acts for the sole purpose of improving commercial navigation on the Savannah River between the upper limits of the Savannah Harbor and Augusta, Georgia. The NSBL&D project is located approximately 13 river miles downstream from the City of Augusta in Richmond County, Georgia, and the City of North Augusta in Aiken County, South Carolina. This project consists of a lock chamber, dam, operation building, and a 50-acre park and recreation area. Construction of the NSBL&D project was completed in 1937.

In 1979, the last commercial shipment passed through the NSBL&D project and, consequently, maintenance of the navigation channel was discontinued. Funding for proper maintenance of the lock and dam was curtailed. The current condition of the project is poor. Major repairs and rehabilitation are required to assure a safe and reliable project. The total cost to conduct necessary and immediate repairs and rehabilitation is estimated at \$6,800,000.

The project remains in the ownership of the Federal Government with the Federal Government responsible for operation and maintenance of the dam and Augusta-Richmond County, under a lease agreement, responsible for the operation and maintenance of the lock and adjoining recreation area.

Although the project no longer serves commercial navigation, the study determined that the project currently serves water supply users including one municipality, five industries, and one sod farm; water-related recreation opportunities such as general boating and fishing and specialized rowing and powerboat race events; and regional economic development and tourism. It is also operated to pass some migratory anadromous fish species.

The Savannah District contacted state and local interests to determine if they were interested in taking over ownership of the project. No entity was interested in taking it over in its present condition. However, in recognition of the significant benefits that the project provides to the surrounding area, local interests have indicated that they would consider accepting ownership if the Federal Government pays for all immediate and future repairs and rehabilitation.

This study considered and evaluated four alternatives:

1. Status quo
2. Transfer ownership
3. Reauthorization
4. Deauthorization

The report also includes a letter proposal by the City of North Augusta and Aiken County, South Carolina, which stipulates their terms for transfer of ownership or reauthorization of this project.

To date, a non-Federal entity that is willing to cost-share immediate repairs and rehabilitation, and pay for all future repairs and rehabilitation of the project has not been identified. Accordingly, the District has no other option but to proceed with a recommendation to Congress for complete removal of the structure at full Federal cost estimated at \$5,350,000 and deauthorization of this feature of the Savannah River Below Augusta (SRBA) navigation project.

SECTION 1 INTRODUCTION

1.1. STUDY AUTHORITY

This study was conducted with full Federal funding under the authority of Section 216 of the Flood Control Act of 1970 (Public Law 91-611). Section 216 specifically states:

“The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to the significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest.”

1.2. STUDY OBJECTIVE

The objective of this study was to examine current uses of the New Savannah Bluff Lock and Dam (NSBL&D) project and recommend its future disposition.

1.3. STUDY AREA

The study area represents the area affected by this project. It included the structure (river mile 187.4), the property within the project boundaries, and areas impacted by the pool formed by the structure. The pool extends upstream just above river mile 204 below I-20, as shown on Figure 1, between Richmond County, Georgia, and Aiken County, South Carolina.

1.4. PROJECT LOCATION

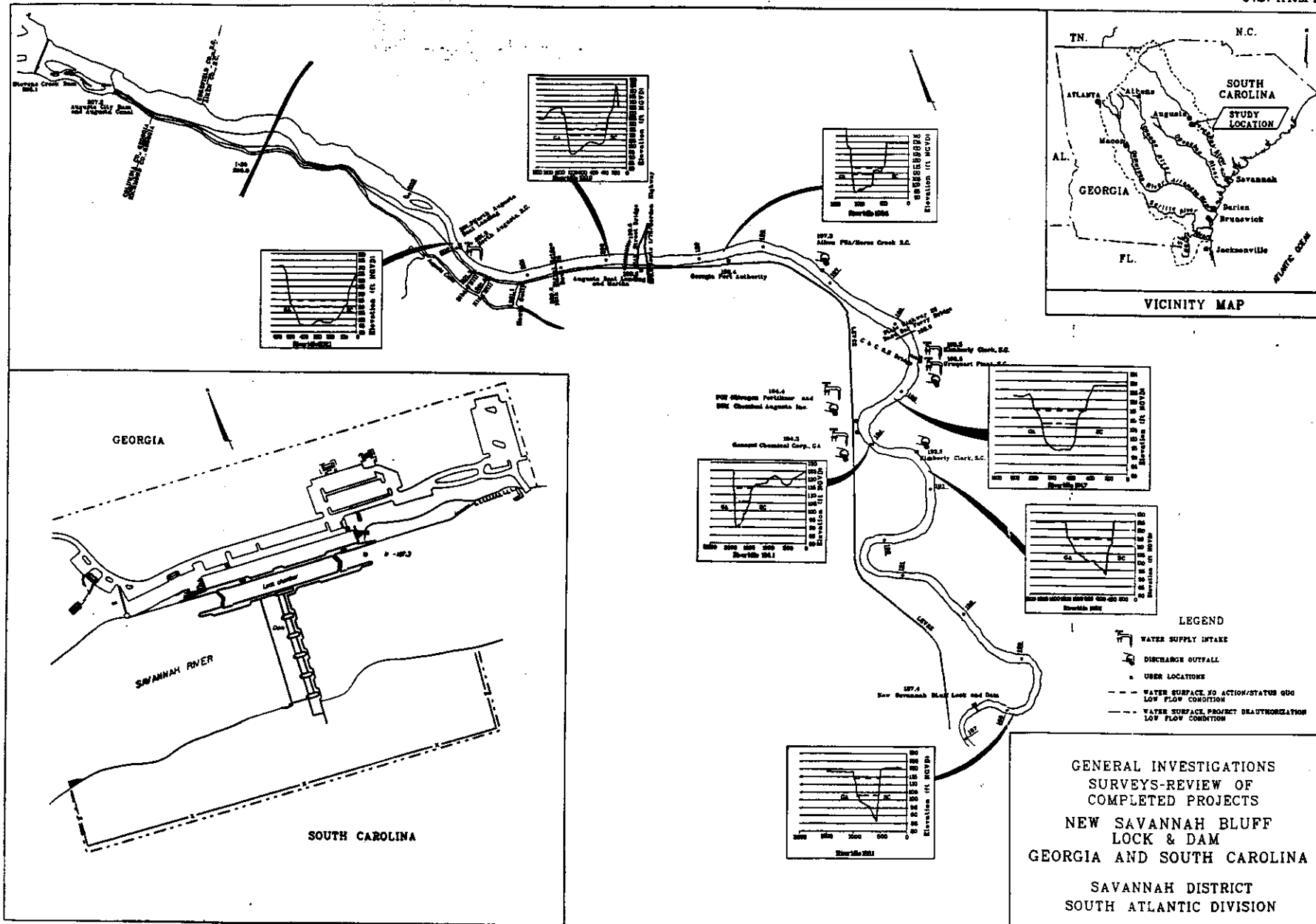
The NSBL&D project is located approximately 33 river miles downstream from the J. Strom Thurmond multipurpose dam and reservoir project and approximately 13 river miles downstream from the City of Augusta in Richmond County, Georgia, and the City of North Augusta in Aiken County, South Carolina (Figure 2). The project property lines extend into Richmond County, Georgia and Aiken County, South Carolina (Figure 3).

1.5. PROJECT DESCRIPTION

This project consists of a lock chamber, dam, operation building, and a 50-acre park and recreation area. The dam is 360 feet long with five vertical lift gates. Each gate is 60 feet long and located between concrete piers. The two gates on each end of the dam are 12 feet high, overflow type. The three middle gates are 15 feet high, non-overflow type. All are remotely controlled from the J. Strom Thurmond project. The lock is on the Georgia side of the river adjacent to the dam. The lock's useable chamber is 56 feet wide and 360 feet long and the lift height is approximately 15 feet. Construction of this concrete gravity structure supported by timber piles was completed in 1937. Cross sections of the project lock and dam are shown in Figure 4 and Figure 5, respectively.

1.6. PROJECT AUTHORITY HISTORY

- The 3 July 1930 Rivers and Harbors Act authorized modifications to the existing Savannah River Below Augusta (SRBA) navigation project to provide a channel 6 feet deep and 75 feet wide by the construction of a lock and dam for the sole purpose of improving commercial navigation from the upper limits of the Savannah Harbor to the head of navigation in Augusta, Georgia (House Document 101, 70th Congress, 1st Session).
- The Public Works Administration (PWA) program assembled under the National Industrial Recovery Act of 1933 authorized appropriations for the construction of the lock and dam on 27 September 1933.
- The 30 August 1935 Rivers and Harbors Act authorized “a new location for the construction of a lock and dam at New Savannah Bluff” in accordance with the Report of the Chief of Engineers dated 19 June 1933 (Senate Committee Print, 73rd Congress, 2nd Session).
- The 17 May 1950 Rivers and Harbors Act authorized “a channel 9 feet deep and 90 wide between the upper end of Savannah Harbor and the head of navigation at Augusta, Georgia” (House Document 39, 75th Congress, 1st Session and Senate Document 6, 81st Congress, 1st Session).
- The 1944 Flood Control Act (Public Law 78-534) and the 1965 Federal Water Project Recreation Act (Public Law 89-72) provided general authority for recreation.



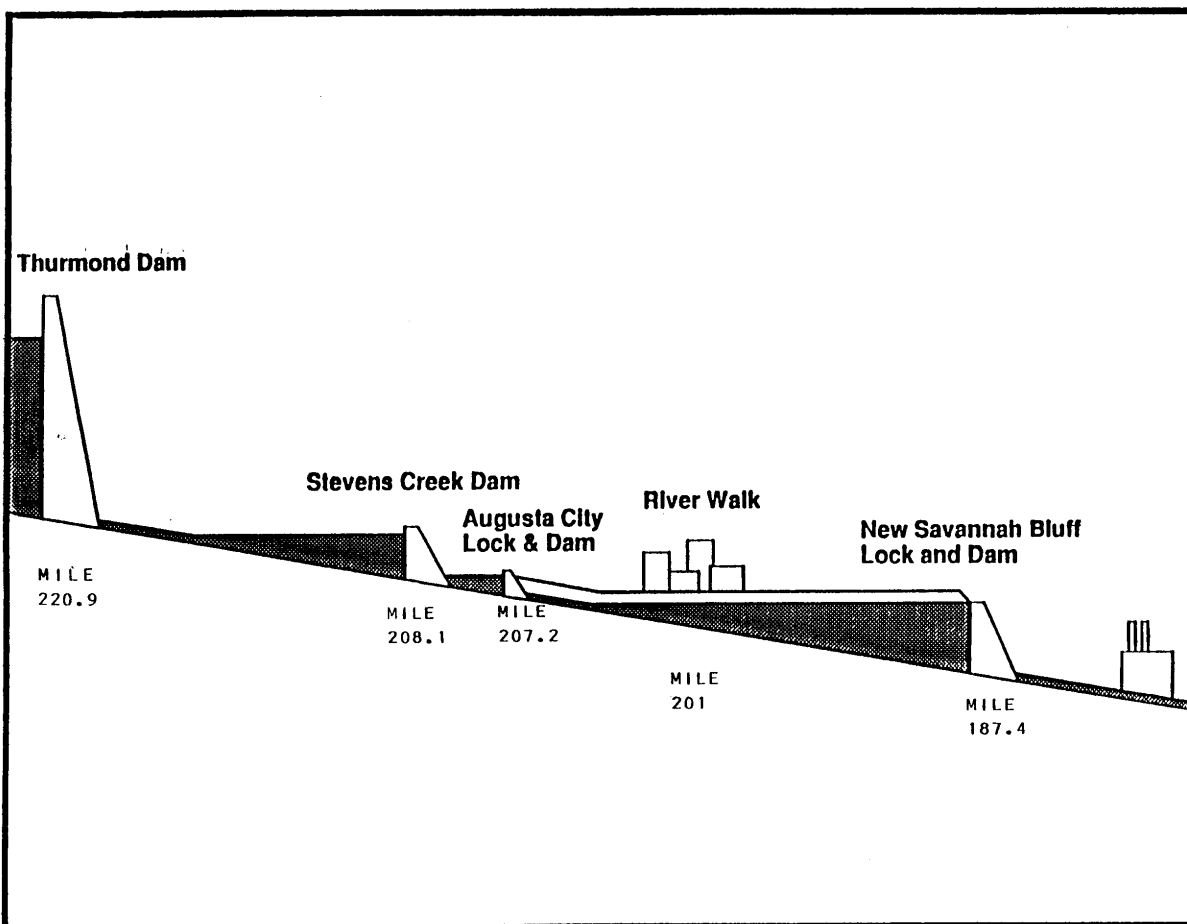


Figure 2: Project Location Map

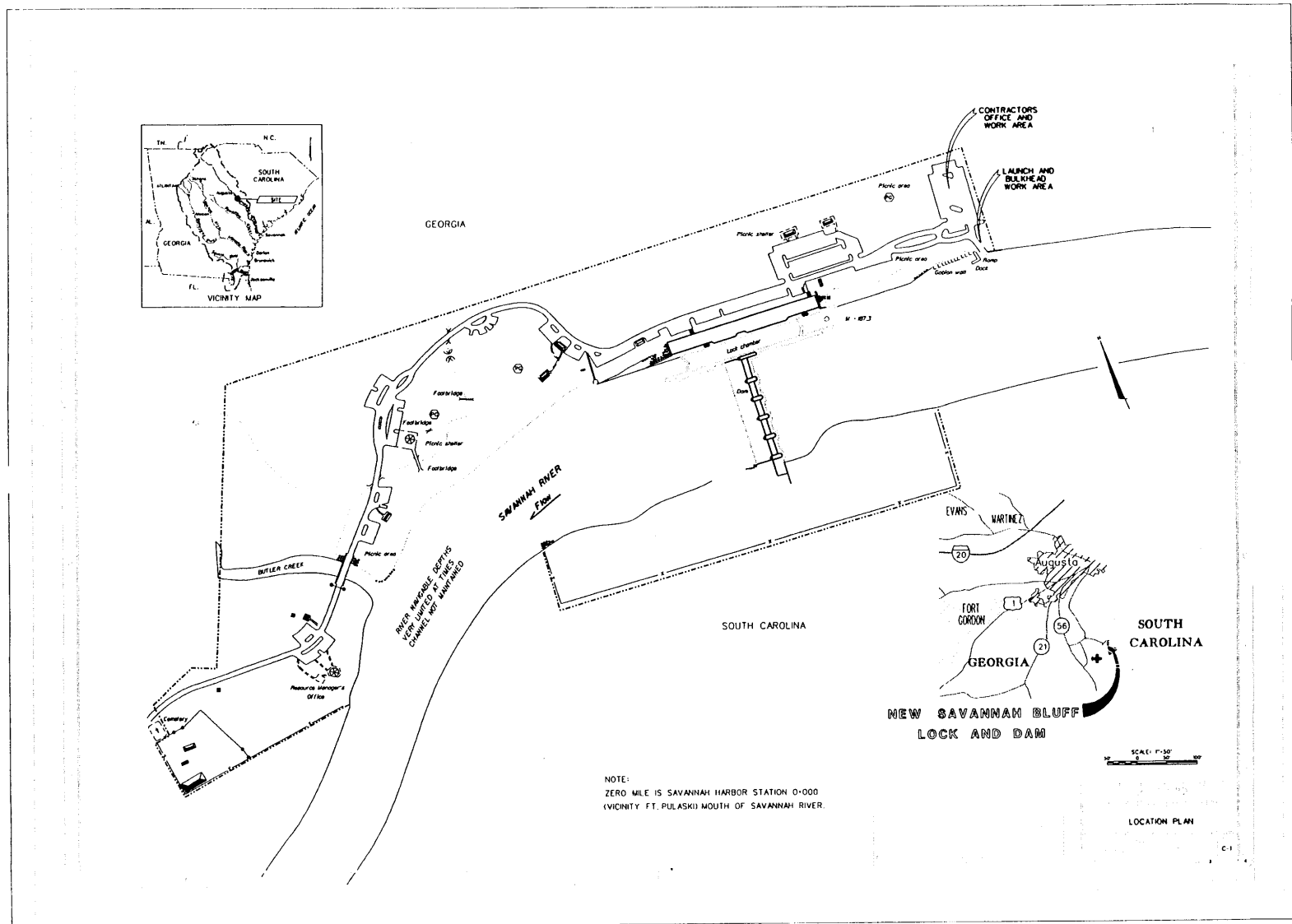
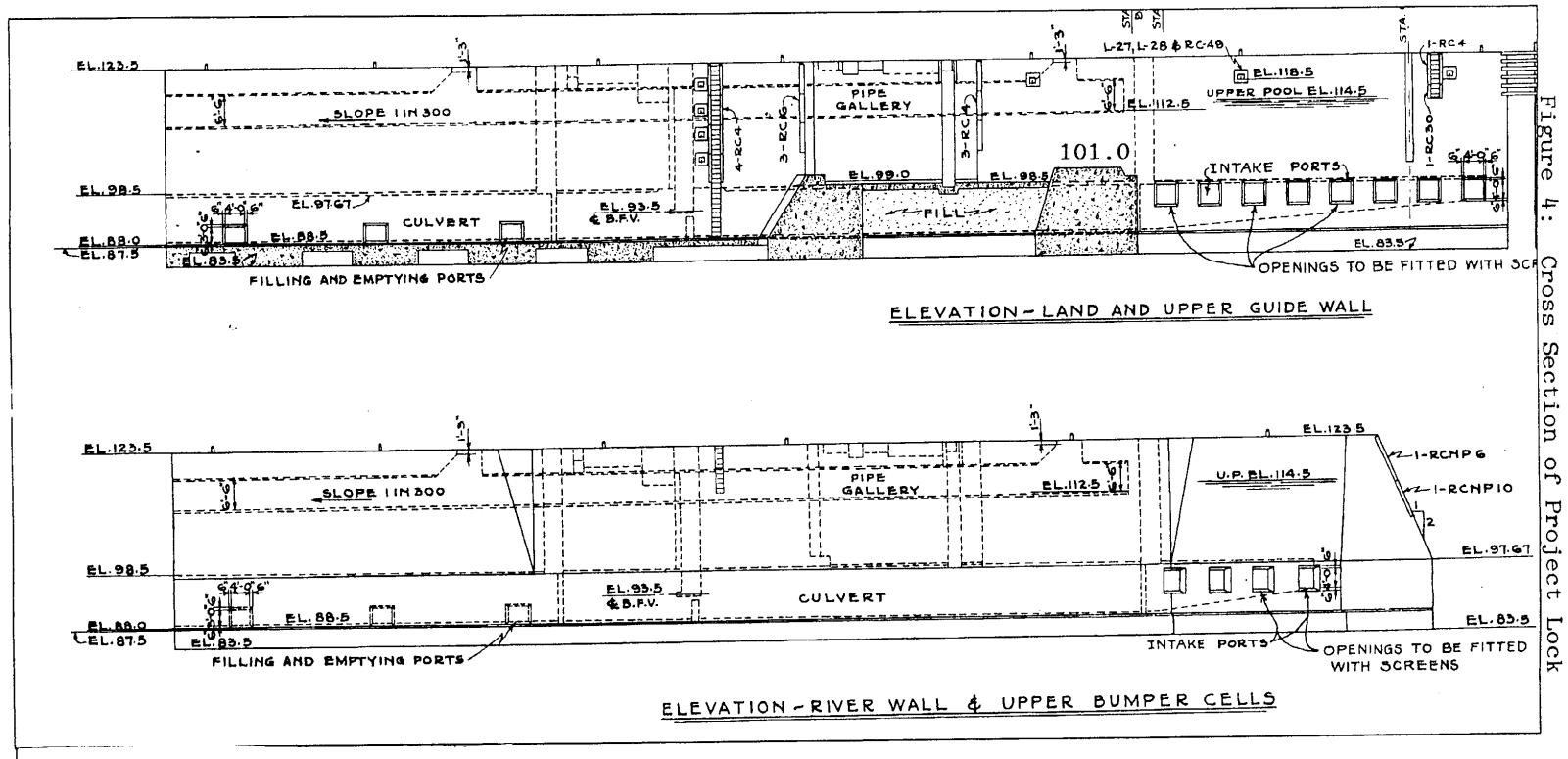
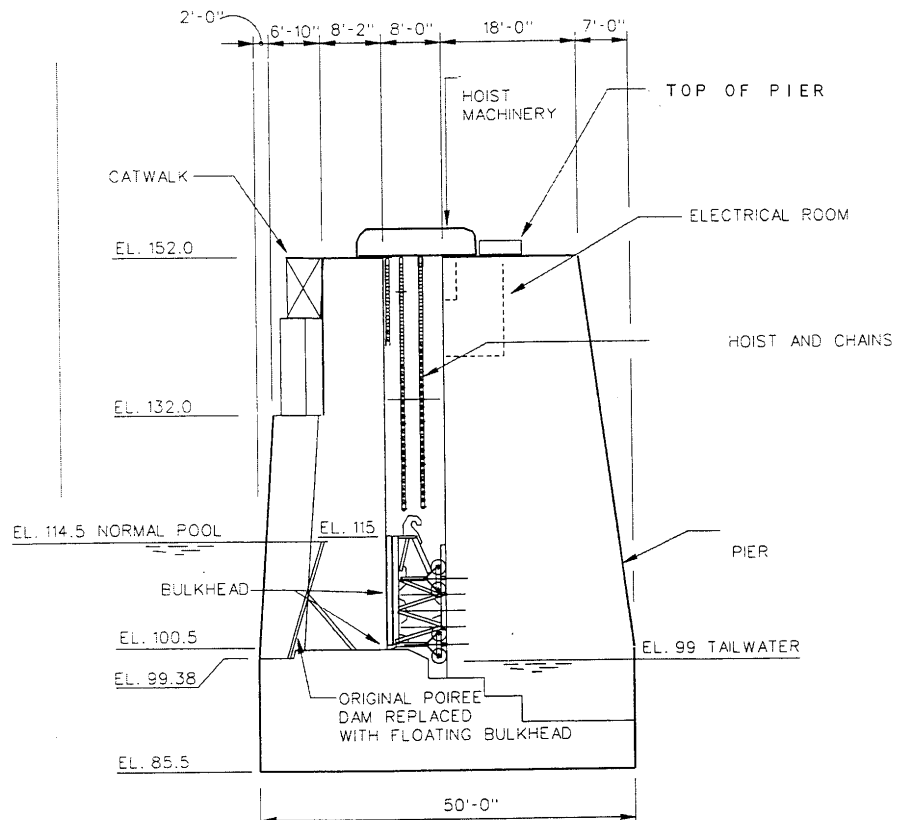


Figure 4: Cross Section of Project Lock





EXISTING PIERS AND GATE ELEVATION

NOT TO SCALE

Figure 5: Cross Section of Project Dam



Figure 6: This downstream view of the NSBL&D project shows the five vertical lift gates on the dam. The gates on each end of the dam are used for overflow.



Figure 7: This is an upstream view of the NSBL&D project. The control building can be seen adjacent to the lock on the Georgia side of the Savannah River.

SECTION 2 BACKGROUND

2.1. PROJECT OWNERSHIP

This project was constructed by the U.S. Army Corps of Engineers (USACE), Savannah District, and is owned by the Federal Government.

2.2. AUTHORIZED PROJECT PURPOSE

The NSBL&D project was authorized for the sole purpose of improving the commercial navigation channel between the upper limits of the Savannah Harbor and the head of navigation at Augusta, Georgia. It was a modification to the existing SRBA navigation project.

2.3. AUTHORIZED PROJECT USE

This project improved the commercial navigation channel for the SRBA project by way of its lock facilities and regulation of flows to provide a 9-foot navigation channel between the upper limits of the Savannah Harbor and the head of navigation at Augusta, Georgia.

The project has not served commercial navigation since 1979 and no longer regulates downstream flows for navigation. In a letter dated 27 September 1985, the Chief of Engineers directed the Savannah District to place the lock into caretaker status. The Savannah District made preparations to permanently close the lock on 30 April 1986. Consequently, the Savannah District held a public meeting in Augusta, Georgia, to present the proposed closing of this lock.

This meeting revealed the City of Augusta's interest in operating the lock for recreational navigation as well as an instrument for economic development and tourism. Another important feature of this project to the City of Augusta was the adjoining park and recreation area added to Federal lands in Georgia. In 1987, the public park and recreation facility and the lock were leased to the City of Augusta *"for purposes of operation and maintenance of the Project"* (Appendix A-1).

2.4. INCIDENTAL PROJECT USES

The dam provides partial but relatively insignificant reregulation of daily average releases between 8,000 and 20,000 cubic feet per second (cfs). The Stevens Creek Dam is capable of providing complete reregulation of flows below 8000 cfs. Releases from Thurmond Dam greater than 20,000 cfs cannot be controlled by the NSBL&D project. Although reregulation at the NSBL&D project smoothes out some releases that pass through the Stevens Creek Dam from the J. Strom Thurmond multipurpose dam and reservoir project, it does not augment low flow water surface elevations downstream. In other words, it does not serve water supply users downstream of the project nor is it used for flood control purposes. The NSBL&D does provide sufficient depths for water supply intakes and for recreational navigation within the pool upstream of it.

Construction of this project resulted in a relatively stable pool that extends from behind the dam to river mile 204 just upstream of the cities of Augusta, Georgia, and North Augusta, South Carolina. The project pool has incidentally become a source for municipal, industrial, and agricultural water supply, but is not pursuant to a USACE contract. It also serves water-related recreation activities such as general fishing and boating and specialized rowing and powerboat race events.

2.5. PROJECT OPERATION

Although the Savannah District no longer operates the lock, it continues to operate the vertical lift gates of the dam to manage pool elevations for incidental uses such as water supply and water-related recreation. The vertical lift gates are remotely operated 6 to 18 times a week during normal conditions to control the elevation of the pool.

The Savannah District also operates this project in conjunction with the J. Strom Thurmond project to pass some migrating anadromous fish species. Large releases, 16,000 cfs, are made from the J. Strom Thurmond project usually during the first week of May, but only if there is excess water in the J. Strom Thurmond reservoir that must be released. This enables some migrating anadromous fish species to pass under the vertical lift gates and over the sill of the NSBL&D. During drought years, this operation usually cannot be conducted. During normal to high flow years, it generally is conducted.

Augusta-Richmond County operates the lock to pass migrating fish species, as required, under an existing lease agreement. Between 30 to 50 lock cycles are performed annually during the period of 15 March and 15 June (Appendix A-2). They also operate the lock between 50 to 100 cycles per year for recreational boating traffic.

On 8 December 1998, the Secretary of the Army and Richmond County, Georgia, mutually agreed to amend the existing lease agreement so that:

“Richmond County acting by and through the Mayor of the Augusta-Richmond County Commission is responsible for all operation and maintenance costs of this lock and public park premises until 7 December 2008 and thereafter for so long as the project remains in operation” (Appendix A-3).

SECTION 3 PROBLEM STATEMENT

The NSBL&D project was authorized specifically for commercial navigation, but it has not been used for this purpose since 1979. Funds for routine maintenance of the project were curtailed. Major repairs and rehabilitation to the NSBL&D project have been conducted, but only when dam safety issues were noted. Major repairs and rehabilitation are required at this time to assure a safe and reliable structure. Otherwise, the project will continue to seriously degrade.

The Savannah District is responsible for upholding the structural integrity of the project to ensure that major catastrophic failures do not occur that would affect public safety and health. Therefore, the Savannah District periodically inspects the project to determine its condition. These inspections have revealed continued deterioration of major components of the project.

Since 1985, the project has incurred major repairs, rehabilitation and replacements estimated at over \$6,000,000. In 1995 and 1996, the spillway gates were repaired and chain hoists were replaced with a hydraulic system on spillway gates number two and three. This work was funded through the dam safety program for \$3,700,000.

In January 1996, the lock was closed when a periodic inspection by the Savannah District found structural problems that affected its stability and safety. In October 1998, after the District completed a \$1,400,000 renovation, of which \$400,000 was funded by Augusta-Richmond County, the lock was reopened to anglers, limited recreational boat traffic, and for passing anadromous migratory fish species. The Federal expenses were funded by special legislation.

In the 1998, Periodic Inspection and Continuing Evaluation (PICES) Report, the most recent PICES report, four major components were identified as having serious needs for major repairs and rehabilitation due to safety problems. These included the spillway piers, hoist base, lock valves, and lock wall.

Further investigations in May 1999, revealed that there was no lateral support on the downstream end of the lock wall. In a letter to the Mayor of Augusta on 22 July 1999, the Savannah District Commander summarized the inspection results, resulting operating restrictions, and recommended repairs (Appendix B-1).

Safety and reliability concerns are amplified since the project currently provides valuable, yet incidental services to adjacent communities. The dam provides a dependable pool elevation upstream for the water supply of a municipality, five industries, and a sod farm and water-related recreation opportunities. The lock provides a passage way for recreational navigation and is used as a fishing pier. Although the project constitutes a barrier to the movement of fish species, it is operated to periodically pass some migrating anadromous fish species thereby allowing access to spawning habitat upstream of the project and reducing adverse impacts from its obstruction.

In summary:

- *The project is no longer used for its specifically authorized purpose, commercial navigation.*
- *There is no economic justification to operate and properly maintain the project for commercial navigation.*
- *Degradation of the structure continues and the potential for structural failure increases over time.*
- *The project is used for other beneficial purposes.*

SECTION 4 FORMULATION OF ALTERNATIVES

Alternatives to the current operation of the NSBL&D project have been developed because the project is no longer being used by navigation interests and producing benefits for its authorized navigation purpose. The District cannot continue to justify increasingly costly routine maintenance or repairs and rehabilitation. Therefore, four alternatives were considered and evaluated. A brief description of each alternative follows:

1. **Status Quo.** This alternative would most likely result in continued minimal and inadequate maintenance and no future repairs or rehabilitation unless required for safety.
2. **Transfer Ownership.** A non-Federal entity assumes ownership and is responsible for a portion of the immediate repairs and rehabilitation cost, all future operation and maintenance, repair, rehabilitation and replacement (O&MRR&R) cost and all other responsibilities of this project.
3. **Reauthorization.** This option in accordance with WRDA 1986 requires a non-Federal entity to become a cost-sharing sponsor to modify the project authority to include all of the following purposes: fish passage, recreation, and water supply.

The Corps of Engineers retains ownership and the sponsor is responsible for a portion of the immediate repairs and rehabilitation cost and all future O&MRR&R cost. In addition, this alternative includes construction of a natural fishway around the South Carolina side of the project. Construction cost would be cost-shared with the sponsor and future O&MRR&R would be the responsibility of the sponsor.

4. **Deauthorization.** This option involves complete dismantling of the project and demolition of the structure by blasting. The resulting rubble would be placed along the riverbanks to provide erosion protection.

SECTION 5 EVALUATION OF ALTERNATIVES

5.1. STATUS QUO ALTERNATIVE

5.1.1. Description

The status quo alternative is the most likely condition expected in the future with no modification to the existing project authority. This alternative would most likely result in continued operation of the project with minimal and inadequate routine maintenance and no future repairs and major rehabilitation unless required for safety. In other words, the project would be safely operated, but not dependable.

The existing condition of the structure is poor. The District continues to monitor the condition and conduct periodic inspections of the project. Accordingly, necessary actions would be taken through modification of operations, like the most recent changes in lock operation, or the dam safety assurance program, like the most recent repairs of the gates, to prevent a failure of the project. However, this alternative does not offer a viable, long-term solution for a safe and dependable project.

5.1.2. Cost

Continuation of status quo would result in costs being incurred by the Federal Government for operation and minimal routine maintenance of the dam and repairs and rehabilitation for safety assurance (Appendix D-1). Augusta-Richmond County would incur all O&MRR&R of the lock and park and recreation area according to the existing lease agreement.

5.1.2.1. Recommended Repairs and Rehabilitation

To meet current safety standards, major repairs and rehabilitation of the lock and dam are needed. Recommended maintenance and rehabilitation involves restoring the structure beyond a minimal level of safety toward its original condition.

Due to the poor structural condition of the lock and dam, major capital rehabilitation, repairs, and replacements would be required in the immediate and distant future. A narrative description and cost estimate for each component requiring repairs and rehabilitation is presented in Appendix C-1, Engineering Considerations.

5.1.2.1.a. Immediate Repairs and Rehabilitation

Below are some of the problems identified in the 1998 PICES report requiring immediate repairs and rehabilitation for safety and operational purposes:

- badly cracked spillway piers
- an unstable hoist base of the operation building
- very badly worn lock filling and emptying valve bearings

- loss of lateral support on the downstream end of the lock wall from undermining and erosion on the river side

Other repairs and rehabilitation immediately needed include replacement of the remaining gate hoists and chains on the dam, hydraulic repairs on the lock, general erosion around the lock, and miscellaneous components. Costs to repair all of these components are estimated at \$6,800,000.

The costs of these immediate safety repair items would be incurred over the next 10 years according to the priority assigned to them (Appendix C-1).

5.1.2.1.b. Future Repairs and Rehabilitation

Anticipated additional future repairs include:

- rehabilitation of electronic, electrical and hydraulic equipment
- mechanical rehabilitation of all gates
- de-watering and inspection of the lock
- painting the exterior of the structure
- erosion repairs
- rehabilitation of lock filling and emptying valves and structural repairs.

These additional future repairs are expected to occur in the next 11 to 30 years and are estimated to cost more than \$2,500,000, which is in addition to the \$6,800,000 needed for immediate repairs.

5.1.2.1.c. Cost of Repairs and Rehabilitation

The equivalent average annual cost for conducting repairs and rehabilitation only when safety assurance is required was estimated at \$424,000 (Appendix D-1) over a 30-year period of analysis at 6.625 percent interest.

5.1.2.2. Annual Operation and Maintenance

Annual operation and minimal maintenance consists of mainly the labor of operating the gates of the dam and monitoring remote control devices with some inspection, administration and minor repair work. This work is expected to occur as long as the project is in operation. The annual operation and maintenance (O&M) cost is estimated at \$237,500.

5.1.2.3. Total Average Annual Cost

Total average annual cost for repairs and rehabilitation conducted as required for safety assurance and O&M is estimated at approximately \$662,000.

5.1.3. Benefits

Although the NSBL&D project is no longer used by commercial navigation, it is being used for other incidental purposes. Current users of the project pool benefit from higher water surface elevations, a wider river, and stable waters.

The project pool provides an augmented water supply source for the City of North Augusta and five major industries in Georgia (PCS Nitrogen Fertilizer, DSM Chemical Augusta, Inc., and General Chemical Corp.) and South Carolina (Kimberly Clark and South Carolina Electric and Gas Company, Urquhart Station) and one sod farm. The stable pool is also used for water-related recreation activities and specialized rowing and power boat race events.

In addition, the project provides a good access point for anglers. The project forms a barrier where migrating fish congregate for improved fishing efforts, while facilitating passage of some anadromous species with its operations.

Benefits of the project in the status quo alternative are measured in terms of the net benefits foregone without the NSBL&D project.

5.1.3.1. Water Supply

Benefits to municipal, industrial, and agricultural (MI&A) water supply users are measured by the resource cost of the alternative most likely to be implemented to achieve comparable outputs without the NSBL&D project pool.

Table 1 summarizes the change in water surface elevations during low flow periods at each water supply intake with and without the project pool (Appendix C-2, Table 1). All of the MI&A water supply users benefit from higher water surface elevations produced by the NSBL&D project.

Table 1
MI&A Water Supply Users

User Name	County/ State	River Mile	NPSH ¹	With Pool ²	Without Pool ²
North Augusta	Aiken,S.C.	201.9	109'	115.2'	109.4'
Mason's Sod	Aiken,S.C.	195.8	112.5'	115.2'	107.0'
Kimberly Clark	Aiken,S.C.	195.5	109'	115.1'	106.0'
Urquhart Station	Aiken,S.C.	195.5	105.5'	115.1'	106.0'
PCS Nitrogen	Richmond,GA	194.4	110'	115.1'	105.8'
DSM Chemical	Richmond,GA	194.4	110'	115.1'	105.8'
General Chemical	Richmond,GA	194.2	111'	115.1'	105.8'

¹Net Positive Suction Head (NPSH) or minimum water surface elevation required to operate intake pumps

²Low Flow Water Surface Elevation (3800 cfs)

5.1.3.1.a. Municipal

The City of North Augusta is completely dependent on the Savannah River for its water supply. The operation of their existing intake is dependent upon the existing project pool. Without the pool, their existing water supply intake is operable in the short-term, but limited in capacity and experiences cavitation since the pumps are not submerged at a sufficient depth. They are constructing a new intake at river mile 201.9 that is scheduled to be operational by January 2001. Once the City of North Augusta's new intake is operable, they would be able to withdrawal their current average demand of 8 million gallons per day (mgd) during low flow conditions without the NSBL&D pool. However, it is estimated to cost up to \$500,000 to make adjustments (to extend an intake line 250 feet into the river) to meet expected future demands of 14, 20 and 40 mgd during low flow events if the structure is removed and there is no pool. Equivalent Average Annual (EAA) cost is estimated at \$39,000 (\$500,000 over a 30-year period at 6.625 percent interest).

5.1.3.1.b. Industrial

According to a simulation under a without project scenario using the Hydrologic Engineering Center River Analysis System (HECRAS) and Unsteady Network (UNET) computer model and information provided by industries on minimum water surface elevations required to operate intake pumps, all of the intakes of the industries, except for Urquhart Station, would be adversely impacted by low flow conditions. As a result, they would need to modify their intakes. Although Urquhart Station's intake would remain operable, it would take additional energy to operate it and they may be required to make adjustments to their system for potential thermal discharge problems. It is assumed that those industries that could no longer operate their intakes would make adjustments to continue operation without the project to avoid loss of profit via shutdown, contingent operations, and start-up costs.

Adjustments to water supply intakes at Kimberly Clark, PCS Nitrogen Fertilizer and DSM Chemical Augusta, Inc., (PCS and DSM share an intake), and General Chemical Corporation, which together account for average withdrawals of approximately 26 mgd, are estimated to cost up to \$1 million for each intake. EAA costs for extending and deepening these water supply intakes are estimated at \$233,000. Annual operating cost is expected to increase by approximately \$10,000 for each intake.

Urquhart Station, a fossil fuel power plant, on an average withdraws 157 mgd from the project pool for cooling water, and it generates 250 megawatt hours of electricity per day for approximately 220,000 homes. Without the project pool, the river computer model simulation indicated that the low flow water surface elevation at Urquhart Station was above the minimum safe level to properly operate their intake pump. Urquhart Station's water supply intake would be operable without the pool during low flow conditions. During the January 2000 drawdown, Urquhart Station confirmed this information. It may cost them an additional \$25,000 annually in energy to operate their pump against additional head. In addition, there may be a problem with thermal discharge from their system. Urquhart Station's discharge permit is based on volume and other characteristics unlike the other industries whose permits are based on flow rates. An analysis would need to be conducted by Urquhart Station and reviewed by the Department of

Health and Environmental Control (DHEC) to determine if there is a need to make adjustments to the temperature of the thermal discharge. The worst case scenario may require installation of a partial cooling unit to reduce the temperature of the discharge. This unit is estimated to cost approximately \$1,000,000. The EAA calculated over 30 years at 6.625 percent interest for this adjustment is estimated at \$77,600. The additional average energy required to operate this unit is estimated at 1/2 megawatt hour. Hence, annual operating costs are estimated to increase by approximately \$25,000 per year.

5.1.3.1.c. Agriculture

Mason's Sod Farm has an intake in the Savannah River that would be inoperable with the absence of the NSBL&D pool. Water supply is critical during the dry summer months. It is estimated to cost approximately \$500,000 for their water supply intake to be adjusted. The EAA calculated over 30 years at 6.625 percent interest is estimated at \$39,000. Annual operating cost is expected to increase by approximately \$10,000.

5.1.3.1.d. Summary

Total annual costs for the next best alternative for water supply without the project is estimated at \$488,000. This cost represents the most likely alternative that water supply users would implement to continue reliable operations. It is the benefit to water supply users attributed to the project. Water supply benefits are summarized in Table 2.

**Table 2
Summary of Water Supply Benefits**

User	Type	First Cost	First Cost EAA	Increase in Annual O&M Cost	Total EAA Cost
North Augusta	Municipal	\$ 500,000	\$ 38,800	\$ 10,000	\$ 48,800
Kimberly Clark	Industrial	\$1,000,000	\$ 77,600	\$ 10,000	\$ 87,600
PCS/DSM	Industrial	\$1,000,000	\$ 77,600	\$ 10,000	\$ 87,600
General Chemical	Industrial	\$1,000,000	\$ 77,600	\$ 10,000	\$ 87,600
Urquhart	Industrial	\$1,000,000	\$ 77,600	\$ 50,000	\$127,600
Mason's Sod	Agriculture	\$ 500,000	\$ 38,800	\$ 10,000	\$ 48,000
Total		\$5,000,000	\$388,000	\$100,000	\$488,000

5.1.3.2. Water-Dependent, General Recreation

Benefits for recreation were measured based on the value of visits lost to the nation without the project. The value of recreation visits was estimated using the Unit Day Value (UDV) methodology. The UDV method relies on expert or informed opinion or judgement to approximate the average willingness to pay of users of the project.

Water-related recreation is classified into two categories: water-dependent and water-enhanced. Water-dependent recreation includes such activities as boating, fishing, canoeing, kayaking, jet skiing, and water skiing. Water-enhanced recreation includes such activities as picnicking and sightseeing. Both include general and specialized categories of recreation. General recreation experiences are readily available, easily accessible, and encountered by the majority of recreationists in a given area. Specialized recreation experiences are more limited, occur with low intensity of use and require more skill, knowledge and appreciation. This report analyzes National Economic Development (NED) benefits for water-dependent, general recreation activities. Water-dependent specialized and water-enhanced activities are not analyzed in this report. These types of opportunities are not dependent on the existence of the NSBL&D pool or can be transferred elsewhere without any loss to NED benefits.

Activities at the NSBL&D park and recreation area would be considered water-enhanced recreation. Annual visits to the park and recreation area are estimated at 300,000 visits. No losses in recreation visits to the nation are expected for activities that occur at the park and recreation area.

Water-dependent, general recreation experiences that currently occur in the study area include pleasure boating, canoeing, kayaking, water skiing, jet skiing, and fishing. General recreation is classified into two categories: general and fishing. General activities currently generate approximately 48,000 visits annually to the NSBL&D pool. A visit constitutes one person on a one-day trip. Fishing currently generates approximately 42,000 visits annually to the NSBL&D study area.

The benefits for water-dependent, general recreation activities were estimated using the unit day value methodology. The unit day values for general recreation experiences are estimated at approximately \$6.29 per visit. The unit day values for fishing are estimated at approximately \$6.97 per visit.

The value of these experiences to the nation equal the number of visits lost to the nation without the project times the value of the recreational opportunity per visit. Annual visits lost to the nation without the project for general recreation are estimated at 3,023. Benefits of repairing and rehabilitating the project for current general recreation activities are estimated at \$19,015. Annual visits lost to the nation without the project for recreational fishing are estimated at 10,555. Benefits of repairing and rehabilitating the project for current recreational fishing activities are estimated at \$73,568. Total annual benefits for water-dependent, general recreation is estimated at \$92,583 (Appendix E-1: Implementation of Unit Day Value Method).

5.1.3.3. Total Average Annual Benefits

Total average annual benefits derived from the project are estimated at approximately \$581,000. Water supply and recreation benefits account for \$488,000 and \$93,000, respectively.

5.1.4. Net Benefits and Benefit-to-Cost Ratio

The net benefit equals to the average annual benefit minus the average annual cost. Average annual benefits are estimated \$581,000. Average annual cost is estimated at \$662,000. The net benefit of the project in the status quo alternative is negative. The benefit-to-cost ratio is equal to the average annual benefits divided by the average annual cost. The benefit-to-cost ratio is estimated at 0.88-to-1.00.

5.1.5. Regional Economic Impacts

Economic impacts to the region have been measured for the power boat and rowing events. In 1998, the Greater Augusta Sports Council estimated that these events boosted the local economy by \$5,200,000. This estimate only took into consideration approximately 5,600 participants and team members. There are approximately 44,400 spectators that also contribute to revenues generated by these events. Hence, this economic impact may be underestimated.

This illustrates one of many types of recreational activities and events that generate revenues to the local communities and the region. However, regional economic impacts express economic impacts to the local and regional economy, they do not express the same measurement of value of this resource to the nation and cannot be included as NED benefits.

5.1.6. Summary

Since the project is no longer economically justified by commercial navigation, its only specifically authorized purpose, and in light of the deteriorated condition of the structure, the District has determined that continuation of the status quo is not a viable, long-term course of action.

5.2. TRANSFER OWNERSHIP

5.2.1. Description

The transfer ownership alternative requires a non-Federal entity that is willing to take over ownership of the project and pay for a share of the immediate repair and rehabilitation cost and all future O&MRR&R cost. Operation of the project would require continued passage of some anadromous fish species in accordance with the existing Memorandum of Agreement.

5.2.2. Potential Local Sponsor

The Savannah District contacted state and local interests to determine if they were interested in taking over ownership of the project. No entity was interested in taking it over in its present condition. However, in recognition of the significant benefits that the project provides to the surrounding area, local interests indicated that they would consider accepting ownership if the Federal Government pays for all immediate and future repairs and rehabilitation.

Aiken County and the City of North Augusta, South Carolina, in cooperation with South Carolina Electric and Gas, has established a joint partnership to consider ownership of this project. They submitted a proposal in a letter dated 1 May 2000 to Dr. Westphal, Assistant Secretary of the Army for Civil Works (Appendix B-2: Locally Preferred Plan).

The Georgia Department of Natural Resources, the Georgia Department of Transportation, and the South Carolina Department of Natural Resources stated that they are not interested in owning or sponsoring this project (Appendix B-3).

The Savannah River Resource Enhancement, LLC., has “an interest in becoming the sponsor for the project” (Appendix B-4). A transaction with the private sector would require transfer of ownership via appropriate real estate procedures.

5.2.3. Cost

The total cost for immediate repair and rehabilitation to assure a safe and reliable project is estimated at \$6,800,000. The Federal Government would, as a condition of transferring ownership, pay \$6,100,000 to implement necessary repairs and rehabilitation. The Federal Government would be willing to make a lump sum payment not to exceed the sum of: (1) the cost to completely remove the structure estimated at \$5,350,000 (see Table 8) and (2) one half of the difference between the total cost of immediate repairs and rehabilitation and the cost of removing the structure $((\$6.8\text{M} - \$5.35\text{M})/2)$, estimated at \$750,000. The remaining \$700,000 required for immediate repairs and rehabilitation would be at the expense of the new owner.

All future O&MRR&R would be the responsibility of the new owner. Annual routine Operation and Maintenance (O&M) would include labor, parts and materials, and minor contract repairs. Annual O&M for the dam is estimated at \$215,500. Annual O&M for the lock is estimated at \$22,000. Repairs, rehabilitation and replacement between years 11 and 30 are estimated at approximately \$2,500,000.

Table 3 summarizes the total first cost and amounts to be shared by the Federal Government and new owner.

Table 3
Total First Cost
Immediate Repairs and Rehabilitation
Transfer Ownership Alternative

Item	Total First Cost	Federal	New Owner
Immediate RR&R of L&D	\$6,800,000	\$6,100,000	\$700,000

Note: All future O&MRR&R will be paid by the new owner.

Table 4 summarizes the Equivalent Average Annual (EAA) cost to the Federal Government and the new owner for continued operation of the NSBL&D project.

Table 4
Cost-Share
EAA O&MRR&R Cost
Transfer Ownership Alternative

Item	Total Cost	EAA Cost	EAA O&MRR&R Cost	
			Federal	New Owner
Immediate RR&R	\$6,800,000	\$527,000	\$473,000	\$54,000
Future RR&R ⁽¹⁾	2,546,000	45,000	0	45,000
Annual O&M ⁽²⁾	7,125,000	237,500	0	237,500
Total	\$16,471,000	\$809,500	\$473,000	\$336,500

(1) See calculation of EAA cost in Appendix D-2

(2) Current annual O&M for the dam is estimated at \$215,500. Total cost over 30 years is \$6,465,000. Current annual O&M for the lock is estimated at \$22,000. Total cost over 30 years is \$660,000.

5.2.4. Benefits

Under this alternative, the project would be repaired and rehabilitated immediately. With a dependable and reliable project, future benefits of the project could now be realized.

It appears highly likely, based on conversations with representatives of the Augusta Metropolitan Convention and Visitors Bureau, Inc., and Augusta Port Authority, that a riverboat would come back to Augusta with a reliable project.

Augusta, Georgia, once had a riverboat from the late 1980's up to 1995. The boat accommodated up to 300 people per trip. It conducted four trips on the weekend and two trips on the weekday. The owner of the riverboat once said that the weekend trips were always full. If there were 300 people on a weekend trip and approximately 100 people on a weekday trip, then 1,400 people per week are estimated to travel on a riverboat. This equates to 78,000 people riding the riverboat annually.

An additional 78,000 visits are expected annually with the return of a riverboat as a result of a dependable project. Since this is a higher quality and unique experience and not common to the region, the value of a trip for an individual is expected to be higher than other types of pleasure boating. The UDV for an individual to take one trip on a riverboat touring through the NSBL&D is estimated at approximately \$22.00. With a reliable project, approximately an additional \$1,700,000 in benefits could be produced from riverboat cruises through the lock.

5.2.5. Total Average Annual Benefits

Total average annual benefits derived from a dependable and reliable project are estimated at approximately \$2,281,000.

5.2.6. Net Benefits and Benefit-to-Cost Ratio

The average annual benefits of the transfer ownership alternative are estimated at \$2,281,000. The average annual cost is estimated at \$809,500. Total annual net benefits equal \$1,471,500. The benefit-to-cost ratio is equal to benefits divided by costs. The benefit-to-cost ratio is 2.82 to 1.

5.2.7. Summary

This alternative, which would permit continued operation of this project in a safe and reliable manner, produces a positive net benefit to the nation. However, at this time, this alternative requires a non-Federal entity to pay a portion of immediate repairs and rehabilitation and all future O&MRR&R costs. Aiken County and the City of North Augusta, South Carolina, has indicated that it would consider ownership of the project, but only if the Federal Government pays for all immediate and future repairs and rehabilitation. Therefore, at this time, this alternative is not feasible.

5.3. REAUTHORIZATION ALTERNATIVE

5.3.1. Description

For the reauthorization alternative, a non-Federal entity must be willing to sponsor this project. The project reauthorization alternative consists of two major features: (1) immediate repairs and rehabilitation of the lock and dam and (2) construction of a natural fishway on the South Carolina property of the project to improve fish passage. The non-Federal sponsor would be responsible for a share of immediate repair and rehabilitation costs, a share of the natural fishway construction cost and all future O&MRR&R cost. The Federal Government would retain ownership of this project and current operation practices to pass some anadromous fish would continue.

5.3.2. Cost

Estimated cost for immediate repairs and rehabilitation of the structure is \$6,800,000. This cost would be shared with the Federal Government paying \$4,700,000 (of which approximately \$2,000,000 is allocated to water supply purposes and is to be repaid with interest by the sponsor over a 30-year period) and the non-Federal sponsor paying \$2,100,000 up-front. Future repairs and rehabilitation are estimated to cost \$2,500,000. Annual O&M cost for the dam is estimated at \$215,500. Annual O&M cost for the lock is estimated at \$22,000. Annual O&M cost for the lock and dam is estimated at \$237,500.

The alternative for fish passage improvement includes a bypass channel designed on the South Carolina side of the dam at an estimated cost of \$5,500,000. This cost would be shared with the Federal Government paying \$3,600,000 and the non-Federal sponsor paying \$1,900,000. Annual O&M cost for the fishway is estimated at \$10,000.

The total estimated cost for immediate repairs and rehabilitation of the lock and dam and construction of a natural fishway on the South Carolina side of the NSBL&D project is estimated at \$12,300,000. The Federal Government's share would be \$8,300,000 and the sponsor's share would be \$4,000,000 up-front.

Table 5 presents a summary of the total cost for immediate repairs and rehabilitation and the construction of a natural fishway. Cost-share amounts for the Federal Government and the sponsor are also included. First costs are based upon repair, rehabilitation, and replacement (RR&R) of capital needed immediately. Future cost is based on RR&R of capital needed in years 11 through 30.

Table 5
Total First Cost
Immediate RR&R and Fishway Construction
Reauthorization Alternative

Item	Total Costs	Federal	Non-Federal Sponsor
Immediate RR&R of NSBL&D	\$6,800,000	\$4,700,000	\$2,100,000
Fish Bypass Construction	5,500,000	3,600,000	1,900,000
Total	\$12,300,000	\$8,300,000	\$4,000,000

Note: All future O&MRR&R costs are the responsibility of the sponsor.

Table 6 shows a breakdown of Federal and non-Federal cost-shares by project purpose (WRDA 1986 Section 103(c) and WRDA 1996 Section 210) for immediate RR&R of the dam and lock and construction cost of the fishway.

Table 6
Total Cost-Share by Project Purpose
Reauthorization Alternative
(\$000's)

Project Purpose	Federal Cost-Share			Non-Federal Cost-Share			Total Cost
	Dam	Lock	Fishway	Dam	Lock	Fishway	
Ecosystem	\$1,280	\$293	\$3,600	\$688	\$157	\$1,900	\$7,918
Recreation	983	225		983	225		2,416
Water Supply	1,966			0			1,966
Subtotal	\$4,229	\$518	\$3,600	\$1,671	\$382	\$1,900	\$12,300
Total	\$8,300			\$4,000			

Immediate RR&R cost to the dam (\$5,900,000) is allocated equally between ecosystem restoration, water supply and recreation. Ecosystem restoration includes the operation of the vertical lift gates on the dam to pass non-benthic anadromous fish species. The one-third allocation for ecosystem restoration would be cost-shared 65 percent (\$1,280,000) Federal and 35 percent (\$688,000) non-Federal. The one-third allocation for recreation would be cost-shared 50 percent (\$983,000) Federal and 50 percent (\$983,000) non-Federal. The sponsor would be required to pay ecosystem restoration and recreation costs up-front. For water supply, the Federal Government would provide 100 percent of the \$1,966,000 (one-third allocation) up-front with repayment by the sponsor over a 30-year interest rate currently at 6.125 percent.

Total immediate RR&R cost for the lock is \$900,000. Since the lock is economically justified by projected benefits of a riverboat and is used for fish passage, costs of the lock repair are allocated equally to recreation and ecosystem restoration. The immediate RR&R cost of the lock for both recreation and ecosystem restoration is \$450,000. The cost-share for recreation is 50 percent (\$225,000) Federal and 50 percent (\$225,000) non-Federal. The cost-share for ecosystem restoration is 65 percent (\$293,000) Federal and 35 percent (\$157,000) non-Federal.

Table 7 presents a summary of EAA cost based on a project life of 30 years and a 6.625 percent interest rate.

Table 7
RR&R, Fishway Construction and O&M
Reauthorization Alternative

Item	Total Cost	EAA Cost	EAA Cost	
			Federal	Sponsor
Immediate RR&R	\$6,800,000	\$527,000	\$378,000	\$149,000
Future RR&R	2,546,000	45,000	0	45,000
Annual O&M ⁽¹⁾	7,125,000	237,500	0	237,500
Sub Total	\$16,471,000	\$809,500	\$378,000	\$431,500
Fishway	5,500,000	400,000	260,000	140,000
Fishway O&M	300,000	10,000	0	10,000
Total	\$22,271,000	\$1,219,500	\$638,000	\$581,500

⁽¹⁾Current annual O&M for the dam is estimated at \$215,500. Total cost over 30 years is \$6,465,000. Current annual O&M for the lock is estimated at \$22,000. Total cost over 30 years is \$660,000.

As shown in Table 7, the total EAA cost for O&MRR&R for the lock and dam is estimated at \$809,500. Total EAA cost for immediate RR&R is estimated at \$527,000. The EAA for future RR&R is estimated at \$45,000. Annual O&M is estimated at \$237,500. The EAA O&MRR&R cost for the Federal Government is \$378,000. The EAA O&MRR&R cost for the sponsor is estimated at \$431,500. The fishway construction cost is estimated at \$5,500,000. The total EAA cost is estimated at \$400,000. The EAA cost for the Federal Government is estimated at \$260,000 (65 percent). The EAA cost for the sponsor is estimated at \$140,000 (35 percent). Annual O&M for the fishway is estimated at \$10,000. The total EAA cost for the Reauthorization Alternative is estimated at \$1,219,500.

5.3.3. Benefits

As mentioned previously, the NSBL&D project no longer serves commercial navigation, but it does serve other incidental purposes such as water supply and recreation. The benefits for this alternative are the same as the transfer ownership alternative.

5.3.4. Total Average Annual Benefits

Total average annual benefits derived from a safe and dependable project are estimated at approximately \$2,281,000.

5.3.5. Net Benefits and Benefit-to-Cost Ratio

The average annual benefits of the transfer ownership alternative are estimated at \$2,281,000. The total average annual cost including the fish bypass is estimated at \$1,219,500. Total annual net benefits equal \$1,061,500. The benefit-to-cost ratio is 1.87 to 1. Benefits derived from the

fish bypass are not included in the quantitative analysis. However, fish populations are expected to benefit.

5.3.6. Fish Passage Improvement

A fish bypass is expected to reopen approximately 20 river miles of spawning and juvenile nursery grounds to anadromous fish and the endangered short nose sturgeon. This would reopen approximately 15 percent of the spawning habitat that has not been readily accessible for fish passage in over 63 years. “Important ecological, recreational and commercial anadromous species such as American shad, blueback herring, hickory shad, striped bass, hybrid striped bass, shortnose sturgeon, and Atlantic sturgeon would likely see a direct benefit in their population characteristics as a result” (SCDNR Creel Survey Report, September 1999).

Figure 8 depicts a rough layout of a fish bypass channel around the South Carolina side of the NSBL&D project. The channel size, length and configuration are such as to fit within the federally owned land. See Appendix F for design details.

5.3.7. Summary

This alternative, which would permit continued operation of this project in a safe and reliable manner, produces a positive net benefit to the nation. This alternative requires a non-Federal entity to pay a portion of immediate repairs and rehabilitation and all future O&MRR&R costs. Aiken County and the City of North Augusta, South Carolina has indicated that it would consider sponsoring reauthorization of the project, but only if the Federal Government pays for all immediate and future repairs and rehabilitation. Therefore, at this time, this alternative is not feasible.

5.4. DEAUTHORIZATION ALTERNATIVE

Since all the above alternatives are not considered feasible, at this time, the District has no other option but to proceed with a recommendation to Congress for complete removal and deauthorization of the project.

5.4.1. Description

Initially this alternative provided partial removal of the structure to minimize costs. However, based on studies of the impacts of the January 2000 draw down, it was determined that fish passage would be made worse during low flow years when the sill of the dam would be a barrier for upstream passage of all species.

Another alternative included the removal of two piers and the sill between them. However, it was estimated to cost more than completely removing the structure from the river.

Complete removal would entail dismantling components of the structure and demolishing it by blasting. The resulting rubble would be placed along the riverbank to provide erosion protection. Consistent with the best interest of the United States and applicable laws and regulations, the land of this project would be disposed as excess real property through the General Services Administration (GSA).

5.4.2. Cost

The total cost to demolish and completely remove the structure is estimated at \$5,350,000. This cost includes mobilization and demobilization of manpower and equipment to remove spillway gates, miter gates, steel superstructure, hoist equipment, and miscellaneous items; site demolition; and rubble excavation.

Table 8 presents a summary of the estimated total first cost for removing the structure and the EEA cost estimated over a 30-year project life at 6.625 percent interest.

Table 8
Cost Estimate
Complete Removal of the Project
Deauthorization Alternative

Item	Federal Cost
Mobilization & Demobilization	\$280,000
Site Demolition	3,640,000
Rubble Excavation	1,430,000
Total First Cost	\$5,350,000
<i>EEA Cost</i>	<i>\$415,000</i>

As a result of removing this project from the Savannah River, water surface elevations, river widths, and the flow velocity of the Savannah River would be altered. This change would occur

immediately upstream of this project to approximately river mile 204 just north of the cities of Augusta, Georgia, and North Augusta, South Carolina.

Appendix C-2, Table 1 and corresponding Figure 1 (Study Area Map) illustrate the changes in terms of water surface elevations and river widths during low flow conditions by a particular river mile. Table 1 indicates that changes in surface water elevations are estimated to decrease out to river mile 204 and that changes in width would vary depending on the contour of the river at a given point. The flow velocity is expected to change from 0.7 to 1.5 cubic feet per second (cfs). This information was critical for determining impacts on the current users of the NSBL&D project pool.

Current water supply users would need to make adjustments to their intake systems due to the change in the depth and width of the channel. Annual costs for water supply users are estimated at \$488,000. There would also be an expected annual loss in value of water-based, general recreation to the nation estimated at \$92,583.

Impacts on riverfront property were not quantified in this report. However, it appears that over the short term, property values may be adversely impacted. In the long term, it appears that these values would be restored as the area adjusts to a more riverine environment.

In addition to impacts on property, it also appears that there would be impacts on existing docks. Reducing water surface elevations over an extended period of time prior to demolishing the structure would minimize these impacts. However, lower water surface elevations would require the extension of most private docks within the NSBL&D pool. A preliminary planning estimate indicated that the average annual cost of extending an estimate 100 docks at a cost of \$5,000 over a 30-year period of analysis at 6.625 percent interest is approximately \$35,000.

Total average annual cost for water supply (\$488,000), recreation (\$93,000), private boat docks (\$35,000) and demolition of project (\$415,000) under the deauthorization alternative is estimated at approximately \$1,031,000.

5.4.3. Benefits

An explicit benefit of deauthorizing the project is that operations and maintenance costs would no longer be incurred. This represents an annual cost savings or benefit estimated at \$237,500.

5.4.4. Net Benefits and Benefit-to-Cost Ratio

Total annual net benefits are negative. The benefit-to-cost ratio is 0.23-to-1. Ecosystem benefits were not quantified, but they are expected to be positive as mentioned below.

5.4.5. Ecosystem Non-Monetary Benefits

With complete removal of the structure, this alternative would result in restoring the Savannah River in the study area closer to its pre-project condition providing for unimpeded fish passage and the potential redevelopment of the rocky shoals habitat.

An additional 20 miles of the Savannah River would be reopened as spawning and juvenile nursery grounds to anadromous fish species and the endangered short nose sturgeon. This would reopen approximately 15 percent of the spawning habitat that has not been readily accessible in over 63 years. “Important ecological, recreational and commercial anadromous species such as American shad, blueback herring, hickory shad, striped bass, hybrid striped bass, shortnose sturgeon, and Atlantic sturgeon would likely see a direct benefit in their population characteristics as a result” (SCDNR Creel Survey Report, September 99).

5.4.6. Wetlands

No net loss in wetlands would result from removing the structure. Changes in wetlands are negligible. Refer to Appendix F: Environmental Assessment for full report.

SECTION 6 SUMMARY OF ALTERNATIVES

6.1. SUMMARY OF ECONOMICS

Table 9 compares the average annual benefits accruing from this project under the Status Quo, Transfer Ownership, Reauthorization and Deauthorization Alternatives over a 30-year period of analysis. Economic costs are expected to be incurred on water supply, recreation, and private dock owners under the deauthorization alternative. Recreation benefits are projected to increase an additional \$1,700,000 with an anticipated riverboat cruise operation under the transfer and reauthorization alternatives. Fish passage of all species is expected to be improved under the reauthorization and deauthorization alternatives.

**Table 9
Annual Benefits to the Nation
Comparison of Alternatives
(Equivalent Average Annual)**

Benefit Category	Status Quo	Transfer	Reauthorization	Deauthorization
Water Supply	\$488,000	\$488,000	\$488,000	-\$488,000
Recreation	\$93,000	\$1,793,000	\$1,793,000	-\$128,000
Fish Passage	Same	Same	Better Off	Better Off
Total	\$581,000	\$2,281,000	\$2,281,000	-\$616,000

Table 10 identifies the NED plan as the transfer ownership alternative. The NED plan maximizes annual net benefits. Cost incurred under the status quo alternative for operations and maintenance is represented as an annual cost savings or benefit in the deauthorization alternative.

**Table 10
Annual Net Benefits to the Nation
and Benefit Cost Analysis**

	Status Quo	Transfer	Reauthorization*	Deauthorization*
Benefit	\$581,000	\$2,281,000	\$2,281,000	\$237,500
Cost	-662,000	-809,500	-1,219,500	-1,031,000
NET BENEFITS	-\$81,000	\$1,471,500	\$1,061,500	-\$793,500
B-to-C RATIO	0.88-to-1	2.82-to-1	1.87-to-1	0.23-to-1

* Benefits for improved fish passage are not monetized.

6.2. SUMMARY OF COORDINATION, PUBLIC VIEWS, AND COMMENTS

Public views were expressed in comments to the November 1999 draft report and during the January 2000 public meeting held in Augusta, Georgia. Riverfront homeowners, water supply users and those encouraging economic development and tourism support keeping the project. Federal and state natural resource agencies and non-governmental environmental organizations support complete removal and deauthorization of the project.

SECTION 7

CONCLUSIONS AND RECOMMENDATIONS

The New Savannah Bluff Lock and Dam (NSBL&D) on the Savannah River below Augusta, Georgia, was constructed in 1937 to improve commercial navigation between Augusta and Savannah, Georgia by way of its lock facilities and reregulation of flows. It has not been used for commercial navigation since 1979. However, construction of this project incidentally resulted in a regulated pool extending from the NSBL&D upstream just beyond Augusta, Georgia and North Augusta, South Carolina. This pool presently serves incidental uses of water supply and recreation. In addition, this project is operated to pass some migrating anadromous fish species.

The Federal Government owns this project. Augusta-Richmond County, under a lease agreement, assumes responsibility for O&MRR&R of the project lock and recreation facilities, while the Savannah District is responsible for O&MRR&R of the dam and remaining project features.

The project is 63 years old and exceeds its project life by 13 years. During the past 14 years, the Federal Government has spent approximately \$6,050,000 for structural rehabilitation of this project of which \$5,100,000 was spent over the last 5 years. There is an additional need for \$6,800,000 in immediate repairs and rehabilitation plus over \$2,500,000 for repairs and rehabilitation in the next 11 to 30 years. Plus, annual O&M costs for the lock and dam are \$215,500 and \$22,000, respectively.

Alternatives to the current operation of the NSBL&D project were evaluated because the project is no longer being used by navigation interests and producing benefits for its authorized navigation purpose. The District cannot continue to justify increasingly costly repairs and rehabilitation.

The Savannah District contacted state and local interests to determine if they were interested in taking over ownership of the project. No entity was interested in taking it over in its present condition. However, in recognition of the significant benefits that the project provides to the surrounding area, local interests have indicated that they would consider accepting ownership if the Federal Government pays for all immediate and future repairs and rehabilitation.

To date, the District has been unsuccessful in identifying a non-Federal entity willing to cost-share in the immediate RR&R of the project and pay for all future O&MRR&R. Accordingly, the District has no other option but to proceed with a recommendation to Congress for complete removal of the structure at full Federal cost estimated at \$5,350,000 and deauthorization of this feature of the Savannah River Below Augusta navigation project.

Upon approval by Congress, this project should be removed from the Savannah River and the land should be reported as excess property to the General Services Administration for ultimate disposal.

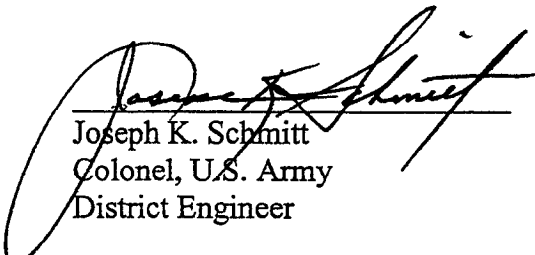
SECTION 8 RECOMMENDED ACTION

The New Savannah Bluff Lock and Dam project was authorized for the sole purpose of improving the commercial navigation channel between the upper limits of the Savannah Harbor and the head of navigation at Augusta, Georgia. It no longer serves its authorized purpose. In addition, the project is not reliable in its existing condition. The District cannot, under its existing authority, justify increasingly costly repairs and rehabilitation required to maintain the project in a safe and reliable condition. Hence, continuation of status quo is not a viable, long-term solution.

In order to continue operation of the project for its current uses in a safe and dependable manner, a non-Federal entity must be willing to either sponsor reauthorization or accept ownership of the project. Both require the non-Federal entity to cost-share immediate repairs, rehabilitation and replacements and pay all future operation and maintenance, repair, rehabilitation and replacement cost.

The District has not identified a non-Federal entity that is willing to cost-share immediate repairs, rehabilitation, and replacement costs and pay for all future repairs, rehabilitation and replacement costs. Therefore, the District has no other option but to proceed with a recommendation to Congress for complete removal of the structure at full Federal cost estimated at \$5,350,000 and deauthorization of this feature of the Savannah River Below Augusta navigation project.

8 September 2000
Date


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